



Grade 2 - Unit C - Sizing It Up

Unit Focus

The focus of this unit shifts from earlier work with addition, subtraction and place value concepts to those concerning measurement. Students will discover the need for a standard unit of measurement as their attempts to measure without one become widely varied and confusing. Students learn to measure inches, feet, yards, centimeters and meters and recognize connections and relationships between units of measure. The effect the size of the unit has on the corresponding measurement is recognized. This understanding lends itself to informal pictorial experience with ratios and proportional reasoning, laying groundwork for the multiplicative thinking required in third grade. With this understanding comes greater ability to justify a most appropriate tool and/or unit to use when measuring objects of various sizes. Because of this, students will also become more adept at making unit conversions.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer		
<p>Standards</p> <ul style="list-style-type: none"> • Common Core <ul style="list-style-type: none"> ○ <i>Mathematics: 2</i> <ul style="list-style-type: none"> ▪ Represent and solve problems involving addition and subtraction. ▪ Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (CCSS.MATH.CONTENT.2.OA.A.1) ▪ Measure and estimate lengths in standard units. ▪ Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. (CCSS.MATH.CONTENT.2.MD.A.1) ▪ Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. (CCSS.MATH.CONTENT.2.MD.A.2) ▪ Estimate lengths using units of inches, feet, centimeters, and meters. (CCSS.MATH.CONTENT.2.MD.A.3) ▪ Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. (CCSS.MATH.CONTENT.2.MD.A.4) ▪ Relate addition and subtraction to length. ▪ Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. (CCSS.MATH.CONTENT.2.MD.B.5) 	<p><i>Students will be able to independently use their learning to...</i></p> <p>T1 Represent situations using mathematical reasoning and symbols.</p> <p>T2 Choose appropriate tools to make reaching solutions more efficient, accessible and accurate.</p>		
	Meaning		
	Understanding(s)	Essential Question(s)	
	<p><i>Students will understand that...</i></p> <p>U1 The smaller the unit of measurement being used, the greater the number of units necessary to determine an object's length, and vice versa.</p> <p>U2 Mathematicians evaluate the usefulness and limitations of the tool for the given situation.</p>	<p><i>Students will keep considering...</i></p> <p>Q1 How does what we measure affect how we measure?</p> <p>Q2 What tool is most effective and efficient?</p>	
	Acquisition of Knowledge and Skill		
	Knowledge	Skill(s)	
<p><i>Students will know...</i></p> <p>K1 Mechanics of measurement and link meaning to those mechanics</p> <p>K2 We can measure distances using various units</p>	<p><i>Students will be skilled at...</i></p> <p>S1 Measuring lengths of objects with precision</p> <p>S2 Selecting an appropriate unit of measurement for the object being measured</p>		

Stage 1: Desired Results - Key Understandings

- Mathematical Practices
- Reason abstractly and quantitatively. (*CCSS.MATH.MP.2*)
- Use appropriate tools strategically. (*CCSS.MATH.MP.5*)
- Attend to precision. (*CCSS.MATH.MP.6*)

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Analyzing: Examining information/data/evidence from multiple sources to identify possible underlying assumptions, patterns, and relationships in order to make inferences. (*POG.1.2*)

K3 There are 12 inches in a foot; 3 feet in a yard

K4 We measure with iterated units (no gaps or overlaps)

K5 Vocabulary: estimate, inch, foot, length, measure, yard, circumference, ruler, distance, height, length, width, yardstick, centimeters, meters

S3 Using proportional reasoning to recognize relationships between objects (or pictures).